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AUTHOR Slem, Charles M.
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ABSTRACT

Although the Type A behavior pattern has been linked to serious health disorders, recent evidence suggests that the Type A style only produces negative health consequences when its fit with the environment is poor. A study was undertaken to determine whether there was a difference between Type A and Type B persons in general lifestyle pace preference. College students (N=140) completed a number of stress measurements, the Jenkins Activity Survey (JAS) Form D, and a brief survey assessing preferred pace style and current style. Students were categorized as Type A or Type B by their JAS scores. Pace incongruence was determined by subtracting the preferred pace score from the current pace score. The results indicated that, compared to Type B students, Type A students preferred a faster paced environment and reported a faster paced current environment. Students who were pace-incongruent reported significantly greater stress on all stress measures. Approximately twice as many Type A students as Type B students were pace-incongruent, and Type A students reported more stress related to their current pace. When pace-congruent Type A students were compared with pace-congruent Type B students, Type A students still reported significantly more stress with the exception of pace-control stress, where congruent Type A's were significantly less stressed. These results support the person-environment fit stress hypothesis, and confirm the Type A preference for faster paced environments and the Type A propensity to be in lifestyles which are pace-incongruent. (NRB)

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Charles M. Slem

Psychology and Human Development
California Polytechnic State University
San Luis Obispo

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Charles M. Slem
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California Polytechnic State University
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Although the Type A behavior pattern has been linked to serious health disorders (e.g. Rosenman, et al., 1975), recent evidence suggests that the Type A style only produces negative health consequences when its fit with the environment is poor (Frankenhaeuser et al., 1980a). The person-environment fit hypothesis (Harrison, 1978) suggests that a poor enviornmental fit occurs when either the environment does not match the individual's preferences, or when the person's skills are inadequate to deal with the demand of the situation. Snow and Glass (1981) hypothesized that Type A persons prefer a faster paced environment and are more concerned with environmental control than Type B

persons. In manipulating pace and control in a laboratory environment, both Type A and Type B persons placed in a state of environmental pace/control incongruence experienced cardiovascular activity and behaviors which are usually associated with the Type A behavior risk. When Type A subjects had the opportunity to determine their own pace in completing laboratory tasks, their faster pace was not reflected in increases in physiological arousal (Frankenhaeuser et al., 1980a).

Since most of the research in this area experimentally creates pace/control environments and then uses observed behaviors of subjects to identify pace preference for a specific task, one of the purposes of this study was to determine whether there was a difference between Type A and Type B persons in general lifestyle pace preference. It was predicted that Type A persons would prefer a faster pace and report a currently faster paced style than Type B persons. Based on the general person-enviornment fit hypothesis, it was also predicted that people who were in a state of pace/control incongruence would experience higher levels of stress regardless of their behavior pattern.

There are a number of Type A characteristics which lead to the prediction that the fit between the Type A person and her/his environment would be poorer. For example, the Type A's ambitious striving to achieve more and more in less and less time (Friedman and Rosenman, 1974, and Price, 1982)

coupled with the chronic use of suppression and denial as coping strategies (Pittner and Houston, 1980) suggests a propensity to increase the number of current tasks beyond the preferential pace/control fit level so that the pace becomes too fast with a resulting lack of control.

METHOD

Subjects

The subjects were 140 students enrolled in a course on the psychology of stress at California Polytechnic State University, San Luis Obispo.

Procedure

At the beginning of the term, students completed a number of questionnaires and assessments as part of lecture demonstration projects and to obtain personal information for a term paper on stress. Among the measurements were the Jenkins Activity Survey (JAS) Form D, the Simplified Self-Scoring Test for Guaging Stress and Tension Levels (Farquar, 1978), the Langner Impairment Scale (Shader et al., 1971) which has been used to measure physiological stress in college students (Garrity et al.,1977), the Burnout and Tedium Test (Pines & Aronson, 1981) and a measure of trait anxiety (Speilberger et al.,1969). In addition, students completed a brief survey which included

items assessing preferred pace style and current style. Students indicated whether or not they perceived their current pace, given the available time to complete daily tasks, as stressful.

Students were categorized as Type A if their JAS score was 10 or above, Type B if their JAS score was 6 or less, and A/B if their scores were between 7 and 9. "Out of fit", or pace incongruence, was determined by subtracting the preferred pace score from the current pace score. Anything greater than or less than 0 was considered pace incongruent.

RESULTS

Compared to Type B students, Type A students preferred a faster paced environment ($t= -4.45$, $p<.001$), and reported a faster paced current environment ($t= -6.77$, $p<.001$).

Table 1 summarizes the t-test comparisons between students who were pace congruent with students who were pace incongruent. Those who were pace incongruent reported significantly greater stress on all of the stress measures (p's range .001 to .02).

Table 2 reports the percentages of pace congruent and pace incongruent subjects by Type A-B categories. Approximately twice as many Type A students as Type B students were pace incongruent. The Chi square analysis was significant, $X^2 =14.3$, $df=2$, $p<.001$. A nonparametric correlation of .34 ($p=.0001$) was found between fit category

and Type A category. Type A students were also more likely to report that they were experiencing more stress related to their current lifestyle pace given the amount of available time to accomplish tasks ($t= 3.66$ $df=98$, $p<.001$).

One further set of analyses was conducted to determine if pace congruent Type A subjects reported less stress than pace incongruent Type A subjects, and to determine whether or not pace congruent Type A subjects were similar to pace congruent Type B students. Although the numbers of subjects in each category are relatively small, the differences between pace congruent Type A's and pace incongruent Type B's were in the predicted direction, although not statistically significant (Table 3).

In addition, when pace congruent Type A students were compared with pace congruent Type B students (Table 4), Type A students still reported significantly more stress with the notable exception of pace-control stress, where congruent Type A's were significantly less stressed. This pattern is repeated if the comparison is with all Type B students, regardless of fit.

DISCUSSION

The results offer support for the person-environment fit stress hypothesis, and confirms the Type A preference for faster paced environments and the Type A propensity to be in lifestyles which are pace incongruent. Although

there is a suggestion that congruent pace Type A's experience less stress than incongruent pace Type A's, the higher stress scores reported by congruent pace Type A's when compared to congruent Type B's indicates a possible limitation to the pace congruence as the major component of the person-environment fit hypothesis when applied to the Type A behavior pattern.

To the extent that these results are similar to the work of Frankenhaesur et al. and Snow and Glass, the implications for modifying Type A behavior indicate a departure from most of the strategies suggested in the popular press (e.g. Charlesworth & Nathan, 1982 and Worchel and Shilbiske, 1983) which generally propose that the Type A person work to become a Type B person. To do this, in fact, might even be counterproductive. For example, Frankenhaeuser et al. (1980b) reported that Type A people are not more physiologically aroused than Type B people when working. It is when they are inactive that Type A people show higher arousal and subjective distress than Type B people. As a result, an attempt to persuade Type A persons to "relax" by being inactive may not be helpful. Anectdotally, Type A students often respond with some disdain at becoming more Type B. They enjoy a fast paced lifestyle and see the Type B style as boring and unacceptable. In as much as there is some evidence that several Type A characteristics might be biologial

differences (Frautschi et al., 1983), the simple prescription of becoming a Type B person is not viable for a prevention program and may not be compelling without an initial health problem, e.g. first heart attack, to encourage participation.

A more productive strategy would be to attempt to optimize the person-environment fit so that the Type A person continues to seek the preferred fast pace environment but an environment in which he/she still retains control. Since the results of this study indicate that Type A people are usually operating at a pace which is faster than their preference, some reduction of pace will be necessary, but with the intent of just bringing pace/control into fit rather than creating a Type B person. It is likely that many of the programs in which Type A persons persist and profit produce this modification of "fit" rather than wholesale change to Type B.

The finding that the pace congruent Type A subjects were still experiencing significantly higher levels of life stress than congruent Type B people suggests that if this result were replicated with a larger group, there is a limit to pace/control as the major person-environment fit component for health risks in the Type A behavior pattern. In laboratory settings, pace/control congruence for Type A persons resulted in few biobehavioral signs of stress. But looking at pace congruence in a more general sense, these

self-reported pace congruent Type A individuals are still more prone to stress responses than Type B persons. Whether this difference can be translated into continued increased health risks is an important question, but without prospective research, one would be likely to believe that the pace congruent Type A person continues to be at greater risk.

It is likely that other characteristics of the Type A behavior pattern, e.g. competitiveness and hostility, are only modestly affected by pace congruence. Since Matthews et al. (1977) found that competitive drive was one of the Type A characteristics in the Western Collaborative Group Study which was specifically associated with subsequent occurrence of coronary disease, these factors require additional intervention as separate person-environment fit issues. For example, strategies can be empolyed to reduce anger/hostility to more appropriate levels or to create an environment which does not elicit an anger response.

It could well be, however, that a factor like competitive drive might not be meaningfully handled by the person-environment fit analysis, i.e. regardless of the "fit" between competitive drive and its environment, the person has biobehavioral responses, e.g. elevated serum cholesteral and blood pressure, which may continue to be health risks. Based on Price's (1982) speculation on the development of the Type A behavior pattern, the society

itself may be constantly perpetuating the Type A pattern by offering certain myths or beliefs which seduce the individual into believing that they are in a "good" fit in a highly competitive, personally successful, relationship with their environment. Health risk and Type A behavior interventions from this perspective more plainly become part of a general values clarification process which questions both the assumptions of the person as well as the environment.

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TABLE 1

Stress Score Comparisons between
Pace Congruent and Pace Incongruent Subjects

	Incongruent (n)	Incongruent Mean	Congruent Mean	Congruent (n)	t value	df	prob*
Self Scoring Stress Test	(75)	6.7	4.6	(61)	3.70	134	<.001
Anxiety	(74)	21.6	17.8	(58)	4.41	129	<.001
Langner Impairment	(74)	4.2	2.7	(58)	2.99	136	<.002
Burnout and Tedium	(63)	3.3	3.0	(50)	2.23	110	<.015
Pace/control Stress	(78)	1.3	1.5	(59)	-3.33	135	<.001

*one tailed

TABLE 2

Pace Incongruence by
Type A Category

	Type B	Type A/B	Type A
Pace Incongruent	37.2% (16)	48.6% (18)	73.3% (44)
Pace Congruent	62.8% (27)	51.4% (19)	26.7% (16)

X^2=14.3, df=2, p <.001

TABLE 3

Stress Score Comparisons between
Pace Congruent and Pace Incongruent Type A Subjects

	Incongruent (n)	Mean	Congruent Mean	(n)	t value	df	prob*
Self Scoring Stress Test	(43)	7.6	6.3	(16)	1.24	57	<.11
Anxiety	(43)	22.1	20.1	(15)	1.12	56	<.14
Langner Impairment	(43)	4.7	4.0	(16)	.74	57	<.25
Burnout and Tedium	(39)	3.4	3.3	(12)	.48	49	<.30
Pace/control Stress	(44)	1.2	1.3	(16)	- .87	58	<.20

*one tailed

TABLE 4

Comparison between Pace
Congruent Type A and Congruent Type B

	Type A Congruent (n)	Mean	Type B Congruent Mean	(n)	t value	df	prob
Self Scoring Stress Test	(16)	6.3	3.7	(27)	2.86	41	<.007
Anxiety	(15)	20.1	16.7	(26)	2.58	39	<.02
Langner Impairment	(16)	4.0	1.7	(27)	2.38	17*	<.03
Burnout and Tedium	(12)	3.3	2.9	(23)	1.81	33	<.08
Pace-Control fit stress	(16)	1.3	1.8	(24)	-2.97	38	<.005

*separate variance estimate